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INDUSTRIAL FISHERY PRODUCTS

SITUATION & OUTLOOK

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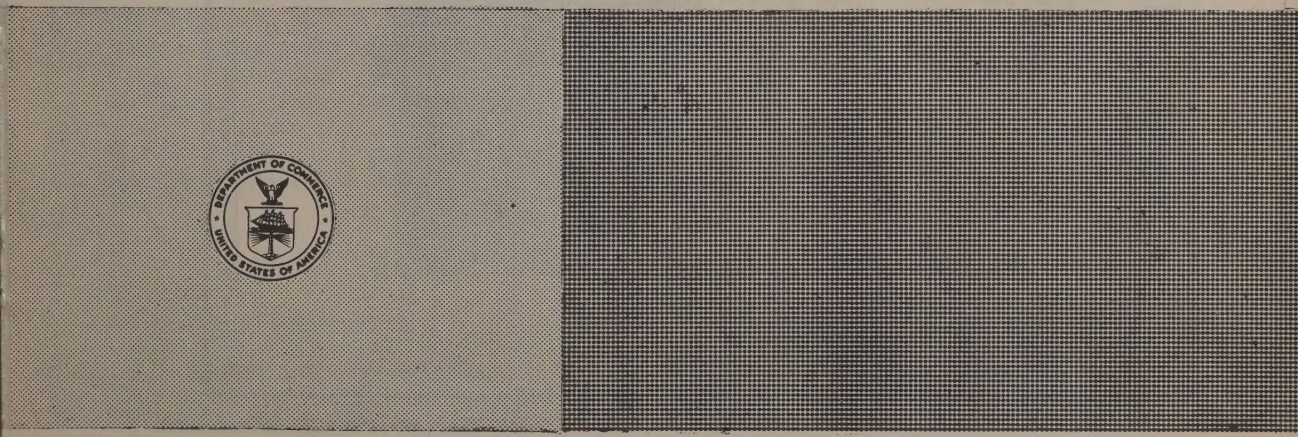
Current Economic Analysis · I 11 · October 1970



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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL MARINE FISHERIES SERVICE

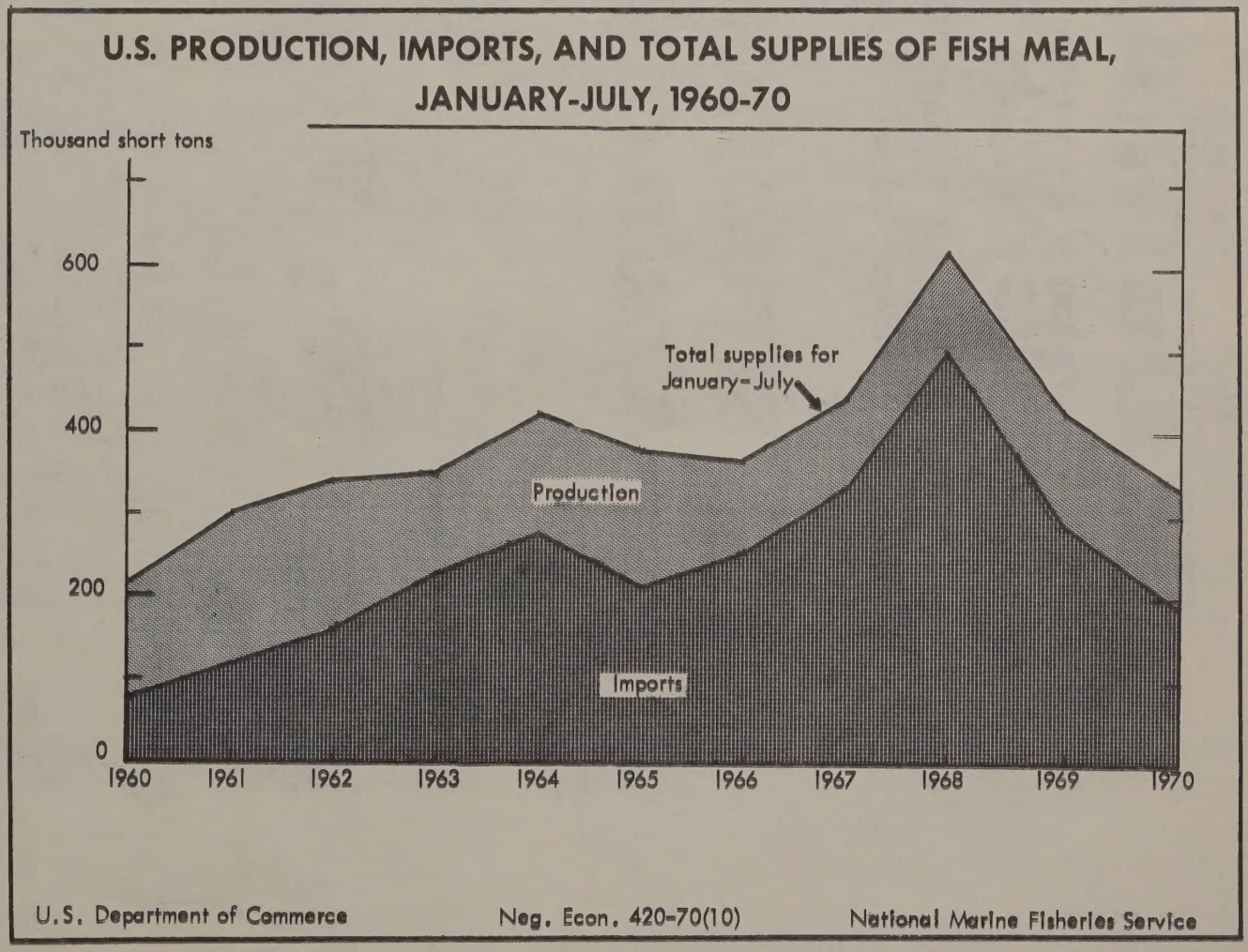
U.S. PRODUCTION, IMPORTS, AND TOTAL SUPPLIES OF FISH MEAL, JANUARY-JULY, 1960-70
Thousand short tons
600
400
200
0
Total supplies for January-July
Production
Imports
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
U.S. Department of Commerce
Neg. Econ. 420-70(10)
National Marine Fisheries Service

Figure 1

INDUSTRIAL FISHERY PRODUCTS SITUATION AND OUTLOOK [1]

Approved by the

National Marine Fisheries Service
Situation
and
Outlook Board

October 22, 1970

Division of Current
Economic Analysis [2]

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SUMMARY

FISH MEAL

The total amount of fish meal available in the United States in January-July 1970 was 340,600 tons [3]--down 20 percent from the same period last year. Domestic production of 146,300 tons was up 10 percent from the same period of 1969, but imports of 194,300 tons were down 34 percent. The decreased imports were a result of the relatively high price of fish meal. January-July imports from Peru--the major supplier of fish meal to the United States--were down one-third from last year.

Although fish meal production of the FEO [4] countries during the first 7 months of 1970 was up 16 percent from a year ago, FEO exports were down slightly. Only 8 percent of the total FEO exports went to the United States in January-July 1970--compared to 13 percent in 1969. Exports to EEC [5] countries were 42 percent of total FEO exports--compared to 38 percent in 1969.

Stocks of fish meal held by FEO countries on August 1, 1970, were an estimated 497,900 metric tons (548,800 short tons)--up 41 percent from stocks held August 1 last year but down 13 percent from the 1965-69 average for the same date. Peru held nearly 57 percent of the August 1 stocks.

1/This is a continuation of the U.S. Department of the Interior, U.S. Fish and Wildlife Service, Bureau of Commercial Fisheries, series of the same name.

2/Principal contributor:
Jukka Kolhonen, Industry Economist

3/Short tons are used in this report unless otherwise specified.

4/Fishmeal Exporters Organization: member countries are Angola, Chile, Iceland, Norway, Peru, South Africa, and South West Africa.

5/European Economic Community: member countries are Belgium, France, West Germany, Italy, Luxemburg, and the Netherlands.

Fish meal is used mainly as an ingredient in broiler feed. Although U.S. broiler placements during January-July 1970 were about 12 percent higher than last year, the apparent use of fish meal by feed manufacturers was considerably less this year than a year ago. The major reasons for this decrease were relatively high prices for fish meal and high ratios between the price of fish meal and the prices of competing feed ingredients. Even though prices of menhaden meal declined from the May average of $197.50 per ton, prices during each month of January-September were above those of a year ago. September prices of menhaden meal averaged $177.80 per ton. Prices of Peruvian fish meal, as quoted at New York City, averaged $202.10 per ton, f.o.b. East Coast ports in May, and declined to $184.00 per ton in September. The September price was about 20 percent higher than the 1965-69 average price for this month. The ratio of the price of Peruvian fish meal to the price of soybean meal was 2.08:1 at the end of September. If this price situation continues through the fourth quarter of 1970, we estimate that 90,000 to 120,000 tons will be used. The apparent use in the fourth quarter last year was 78,600 tons. We expect that domestic production will provide 35 to 50 percent of this meal.

We estimate that total imports for 1970 will be 255,000 to 290,000 tons. Total supplies for the year are expected to be 530,000 to 560,000 tons, or down about 10 percent from last year.

FISH SOLUBLES

The total amount of fish solubles available in the United States in January-July 1970 was 53,200 tons--one-fifth more than a year ago. Nearly all of the fish solubles were produced domestically. About 424 tons of fish solubles were imported, all during the first quarter.

Prices of menhaden solubles in January-August were generally higher than a year ago but remained below the 1965-69 average. The August average price was $50.45 per ton, f.o.b. East Coast plants,--compared to $49.40 a year ago. The slight increase in price together with the increase in apparent use suggests that the demand for fish solubles improved from last year but was still relatively weak compared to average demand in 1965-69. However, we expect the fourth quarter use of fish solubles to be somewhat higher than a year ago.

FISH OIL

U.S. production of fish oil in January-July was about 105.6 million pounds--22 percent more than last year. Most of this oil was made from menhaden. About 20.3 million pounds of fish oil were used in industrial products other than animal feed--compared to 19.2 million pounds a year ago. U.S. exports of fish oil were 66.8 million pounds during the first 7 months of 1970--down from last year but up from the most recent 5-year average for January-July exports.

Prices of fish oil increased from an average of 8.75 cents per pound, f.o.b. East Coast and Gulf plants, in January to an average of 10.4 cents per pound in July. The September average price was 9.7 cents per pound.

We estimate that 9 to 10 million pounds of fish oil will be used in the United States during the fourth quarter compared with 9.1 million pounds last year. Domestic production of fish oil during October-December 1970 is expected to be slightly higher than the 27.4 million pounds produced last year.

FISH MEAL

REVIEW: JANUARY-JULY 1970

Supply

January-July Fish Meal Supplies--Down One-Fifth From 1969

Total U.S. supplies of fish meal in January-July 1970 (excluding stocks, which are not reported) were 340,600 tons--down 20 percent from 1969 and down 23 percent from the 1965-69 average for that period (table 1 and fig. 1). Supplies were down for the second consecutive year and the lowest since 1961. This decrease in the available quantity of fish meal was because of lower imports. Compared to the corresponding months a year ago, imports were especially low in March, June, and July. On the other hand, domestic production in January-July 1970 was higher than during the same period last year. The share of domestic production in total available supplies was 43 percent in the first 7 months of 1970--compared to 31 percent a year ago.

Fish Meal Production--Up 10 Percent From Last Year

U.S. fish meal plants produced about 146,300 tons of fish meal in January-July this year--compared to 133,400 tons in the same period in 1969 (table 2). About 113,000 tons of this production, or 77 percent, came from menhaden--compared to 88,100 tons or 66 percent during January-July last year (table 3). About 15 percent of the fish meal was made from tuna, mackerel, and anchovies. Nearly 75 percent of the menhaden meal was made in the Gulf Coast area this year--compared to about 85 percent a year ago. A notable increase took place in the Chesapeake Bay area where menhaden meal production this year was about 3.7 times as large as a year ago and over twice the 1965-69 average production of this area for the January-July period.

For the first 7 months, menhaden landings were 1,080.7 million pounds--up 30 percent over 1969 landings and about 44 percent over the 1965-69 average (table 5). Although menhaden landings in the Middle Atlantic region were 82 percent below last year, landings for the total Atlantic Coast were more than twice those of a year ago. The increase was attributed mainly to the exceptional jump in landings in the Chesapeake region.

Gulf Coast landings also were up over last year,--810 million pounds compared with 712 million pounds. The Gulf Coast area had about 75 percent of the total menhaden landings in January-July 1970--compared to about 85 percent a year ago (fig. 2).

About 85 percent of the menhaden catch this season has been 1-year-old fish, which generally yield less oil and meal per pound than 2- and 3-year old fish.

The fishing season for anchovy opened August 1 in California waters for the Northern Permit Area and September 15 for the Southern Permit Area. The season is scheduled to close May 15, 1971. The quota for the two areas is 110,000 tons. Landings through October 11 totaled about 15,100 tons compared to about 8,600 tons a year ago.

Imports of Fish Meal--Down One-Third From 1969

The United States imported 194,300 tons of fish meal during January-July 1970-down 34 percent from 1969 and down 39 percent from the 1965-69 average (tables 6 and 7). The low imports are a consequence of the continuously high price of fish meal, which has reduced the use of fish meal by feed mixers.

Table 1.--Total fish meal available in the United States: production plus imports, by month, 1963-70[1]

Month	1963	1964	1965	1966	1967	1968	1969[2]	1970[2]
				Thousand short tons				
January	20.8	33.1	19.2	18.1	47.7	93.4	30.0	24.4
February	43.0	37.6	28.4	27.5	48.3	51.8	31.5	25.9
March	43.2	43.2	57.5	39.2	79.1	59.2	49.9	24.6
April	35.0	64.1	51.0	50.8	60.0	74.1	72.7	61.8
May	71.4	91.6	55.6	55.3	56.2	89.5	76.9	61.6
June	53.8	83.5	93.1	82.6	74.1	111.7	88.9	80.9
July	82.1	74.1	68.8	85.5	84.0	136.0	77.0	61.4
August	87.7	70.0	55.8	90.8	108.4	123.6	51.8	49.4
September	60.0	56.9	27.9	66.5	76.0	78.9	45.1	
October	49.9	28.3	17.1	46.4	61.5	69.0	38.8	
November	30.8	36.4	17.8	54.7	78.4	85.0	19.3	
December	39.7	45.5	21.0	42.8	79.2	110.2	20.5	
Total[3]	617.4	664.3	513.0	660.2	852.9	1,082.3	602.5	

[1]Excludes meal made from shellfish.
[2]Preliminary.
[3]Figures may not add to total because of rounding.

Imports from Peru were about 133,600 tons during January-July this year--down one-third from 1969 and down 44 percent from the 1965-69 average. The share of U.S. fish meal imports from Peru was about 69 percent in the first 7 months of 1970--compared to about 68 percent last year and to the average of 74 percent in the same period in 1965-69.

Both Canada and Norway increased their shipments to the United States. Fish meal imports from Canada were up 16 percent from last year and up 42 percent from the 1965-69 average. In the first 7 months they made up about one-fifth of the U.S. imports of fish meal compared to about 12 percent a year ago. The fast growth in the number of reduction plants handling Atlantic herring is causing the Canadian government and industry to be concerned about possible overfishing the herring resource.

Fish meal imports from Norway in January-July 1970 were more than twice the imports of a year ago but only 41 percent of the 1965-69 average. Imports from Norway were about 4 percent of the U.S. fish meal imports--compared to 1 percent a year ago.

Imports from Chile were 77 percent less than last year during the 7-month period. These imports were 6 percent of the U.S. fish meal imports in January-July this year and over 17 percent a year ago. Chile's domestic use of fish meal in the first 7 months of this year was four times that of a year ago; the exports were only half of the exports of last year.

Table 2.--U.S. production of fish meal by month, 1963-70[1]

Month	1963	1964	1965	1966	1967	1968	1969[2]	1970[2]
	Thousand short tons							
January	2.3	2.1	3.2	2.8	5.7	2.5	2.8	4.3
February	2.9	2.3	2.9	2.3	3.9	2.7	3.8	4.5
March	2.7	3.1	3.8	5.7	4.9	4.5	4.7	5.2
April	8.4	8.1	11.3	11.3	10.1	11.8	14.7	6.9
May	40.3	32.1	25.1	20.3	17.2	19.1	31.8	26.9
June	35.3	49.0	48.6	36.9	33.5	30.8	35.4	47.3
July	38.9	45.2	50.1	36.5	36.4	44.3	40.2	51.2
August	43.7	33.5	42.0	31.4	33.6	36.2	33.5	39.1
September	24.7	22.8	21.1	23.2	20.3	29.6	35.9	
October	18.5	8.6	12.3	11.0	11.4	20.2	19.1	
November	13.4	10.7	12.1	18.9	15.4	14.3	12.7	
December	10.0	7.7	9.8	12.0	9.0	11.0	9.5	
Total[3]	241.1	225.2	242.3	212.4	201.4	227.0	244.1	

[1]Excludes meal made from shellfish.
[2]Preliminary.
[3]Figures may not add to total because of rounding.

Table 3.--U.S. production of fish meal by raw material source, January-July, 1965-69 average, 1969, and 1970

Source	1965-69 average	1969	1970[1]	Percent of total production: 1965-69 average	1969	1970
	Thousand short tons			Percent		
Menhaden[2]	79.5	88.1	113.0	64.6	66.1	77.2
Tuna, mackerel, and anchovies	17.1	19.7	22.6	13.9	14.8	15.5
Unclassified	26.5	25.5	10.7	21.5	19.1	7.3
Total	123.1	133.4[3]	146.3	100.0	100.0	100.0

[1] Preliminary.
[2] Includes a small quantity of other species.
[3] Figures may not add to total because of rounding.

Table 4.--Production of menhaden meal by area and by month, 1963-70[1]

Month	1963	1964	1965	1966	1967	1968	1969[2]	1970[2]
	Thousand short tons							
	Atlantic Coast							
January	-	0.1	0.2	0.5	-	-	-	-
February	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-
April	1.1	.9	.6	.2	1.1	1.0	.2	.7
May	12.8	5.4	3.9	1.1	1.9	2.7	2.4	4.3
June	12.9	12.2	12.6	4.6	6.6	7.1	4.7	14.4
July	13.5	11.7	8.8	6.0	6.0	10.9	6.0	9.4
August	11.6	11.5	12.7	7.2	6.8	7.1	4.7	
September	9.8	7.2	7.5	5.8	3.5	4.9	3.2	
October	6.1	4.4	6.5	5.7	4.5	8.3	7.2	
November	8.9	7.2	8.5	14.8	10.2	9.2	7.1	
December	6.3	5.0	6.1	7.1	6.2	6.2	3.5	
Total[3]	83.0	65.6	67.4	53.0	46.9	57.5	39.0	
	Gulf Coast							
January	-	-	-	-	-	-	-	-
February	-	-	-	-	-	-	-	-
March	-	-	-	0.1	-	-	-	-
April	4.0	2.0	6.7	3.7	3.7	3.2	4.6	2.7
May	22.0	17.3	14.9	12.9	8.4	8.6	20.7	17.1
June	16.7	27.5	27.8	22.5	16.7	15.4	23.3	28.2
July	18.0	22.3	30.4	18.9	18.6	21.7	26.3	36.2
August	24.4	14.5	20.7	12.4	16.4	18.4	19.3	
September	9.8	10.8	7.5	11.4	7.5	14.4	22.7	
October	6.3	.3	.6	-	.9	4.0	3.6	
November	1/	-	-	-	-	-	-	
December	-	-	-	-	-	-	-	
Total[3]	101.2	94.7	108.6	81.9	72.2	85.7	120.5	
	Total[3]							
January	-	0.1	0.2	0.5	-	-	-	-
February	-	-	-	-	-	-	-	-
March	-	-	-	.1	-	-	-	-
April	5.1	2.9	7.3	3.8	4.8	4.3	4.8	3.4
May	34.8	22.7	18.8	14.0	10.3	11.4	23.1	21.5
June	29.6	39.7	40.4	27.1	23.3	22.4	28.0	42.6
July	31.5	34.0	39.2	24.9	24.7	32.6	32.3	45.6
August	36.0	26.0	33.4	19.7	23.2	25.4	24.0	
September	19.6	18.0	15.0	17.2	11.0	19.3	25.9	
October	12.4	4.7	7.1	5.7	5.4	12.4	10.8	
November	8.9	7.2	8.5	14.8	10.2	9.2	7.1	
December	6.3	5.0	6.1	7.1	6.2	6.2	3.5	
Total[3]	184.2	160.3	176.0	135.0	119.1	143.2	159.5	

[1]Includes a small amount of meal from other species.
[2]Preliminary.
[3]Figures may not add to total because of rounding.

Table 5.--Menhaden landings by area, January-July, 1965-69 average, 1969, and 1970

Area	1965-69 average	1969	1970[1]	Percent of total menhaden landings: 1965-69 average	1969	1970
	Million pounds			Percent		
Middle Atlantic	26.1	14.8	2.6	3.5	1.8	0.2
Chesapeake	88.8	51.5	193.1	11.8	6.2	17.9
South Atlantic	48.4	55.6	75.0	6.4	6.7	6.9
Total Atlantic[2]	163.3	121.9	270.7	21.7	14.6	25.0
Gulf Coast	589.2	711.7	810.0	78.3	85.4	75.0
Total U.S.	752.5	833.6	1,080.7	100.0	100.0	100.0

[1] Preliminary.
[2] Figures may not add to total because of rounding.

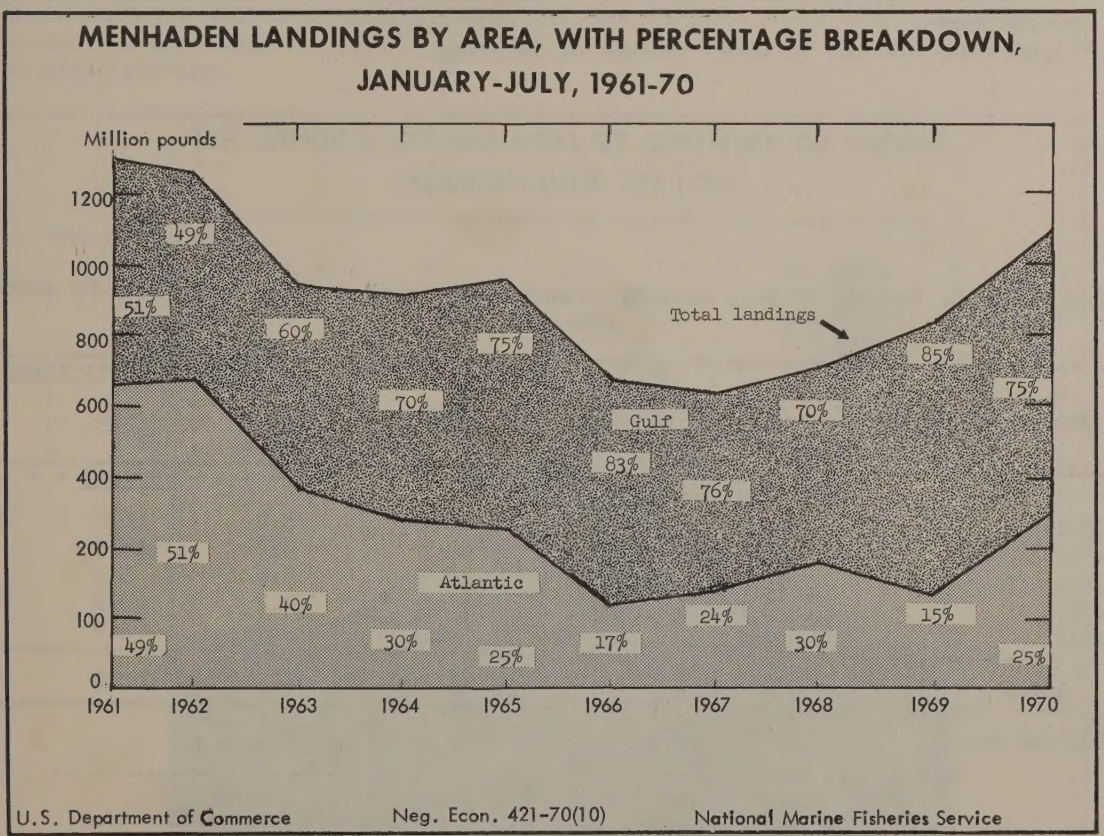


Figure 2

Table 6.--U.S. imports of fish meal by month, 1963-70

Month	1963	1964	1965	1966	1967	1968	1969[1]	1970[1]
	Thousand short tons							
January	18.5	31.0	16.0	15.3	42.0	90.9	27.2	20.1
February	40.1	35.3	25.5	25.2	44.4	49.0	27.6	21.4
March	40.5	40.1	53.7	33.6	74.1	54.7	45.2	19.4
April	26.6	56.0	39.7	39.5	50.0	62.3	58.0	54.9
May	31.1	59.5	30.5	35.0	39.0	70.4	45.1	34.7
June	18.5	34.5	44.5	45.6	40.6	80.9	53.6	33.5
July	43.2	28.9	18.7	49.0	47.6	91.7	36.8	10.2
August	44.0	36.5	13.9	59.4	74.8	87.4	18.3	10.3
September	35.3	34.1	6.8	43.3	55.7	49.3	9.3	
October	31.4	19.7	4.8	35.4	50.1	48.8	19.7	
November	17.4	25.7	5.7	35.7	63.0	70.7	6.6	
December	29.7	37.8	11.0	30.8	70.2	99.3	11.0	
Total[2]	376.3	439.1	270.7	447.8	651.5	855.3	358.4	

[1]Preliminary.
[2]Figures may not add to total because of rounding.

Table 7.--U.S. imports of fish meal by country of origin, January-July, 1965-69 average, 1969, and 1970

Country of Origin	1965-69 average	1969	1970	Percent of total imports: 1965-69 average	1969	1970[1]
	Thousand short tons			Percent		
Canada	28.1	34.5	40.0	8.8	11.8	20.6
Chile	31.0	51.4	11.6	9.7	17.5	6.0
Norway	17.7	3.1	7.3	5.6	1.0	3.7
Peru	236.8	200.6	133.6	74.2	68.3	68.8
Other	5.3	4.0	1.8	1.7	1.4	.9
Total	318.9	293.6	194.3	100.0	100.0	100.9

[1]Figures may not add to total because of rounding.

Table 8.--U.S. imports of fish meal as a percent of total fish meal available in the United States[1], by month 1963-70

Month	1963	1964	1965	1966	1967	1968	1969	1970
	Percent							
January	88.9	93.6	83.3	84.5	88.0	97.3	90.7	82.4
February	93.2	93.9	89.8	91.6	91.9	94.6	87.6	82.3
March	93.8	92.8	93.4	85.7	93.7	92.4	90.6	78.9
April	76.0	87.4	77.8	77.8	83.3	84.2	79.8	88.8
May	43.6	65.0	54.8	63.3	69.4	78.7	58.6	56.3
June	34.4	41.3	47.8	55.2	54.8	72.5	60.3	41.4
July	52.6	39.0	27.2	57.3	56.7	67.4	47.8	16.6
August	50.2	52.1	24.9	65.4	69.0	70.7	35.3	20.8
September	58.8	59.9	24.4	65.1	73.3	62.5	20.6	
October	62.9	69.6	28.1	76.3	81.5	70.7	50.8	
November	56.5	70.6	32.0	65.3	80.4	83.3	34.2	
December	74.8	83.1	52.4	72.0	88.6	90.1	53.7	
Average[2]	60.9	66.1	52.8	67.8	76.4	79.0	59.5	

[1]Production and imports.
[2]Weighted average.

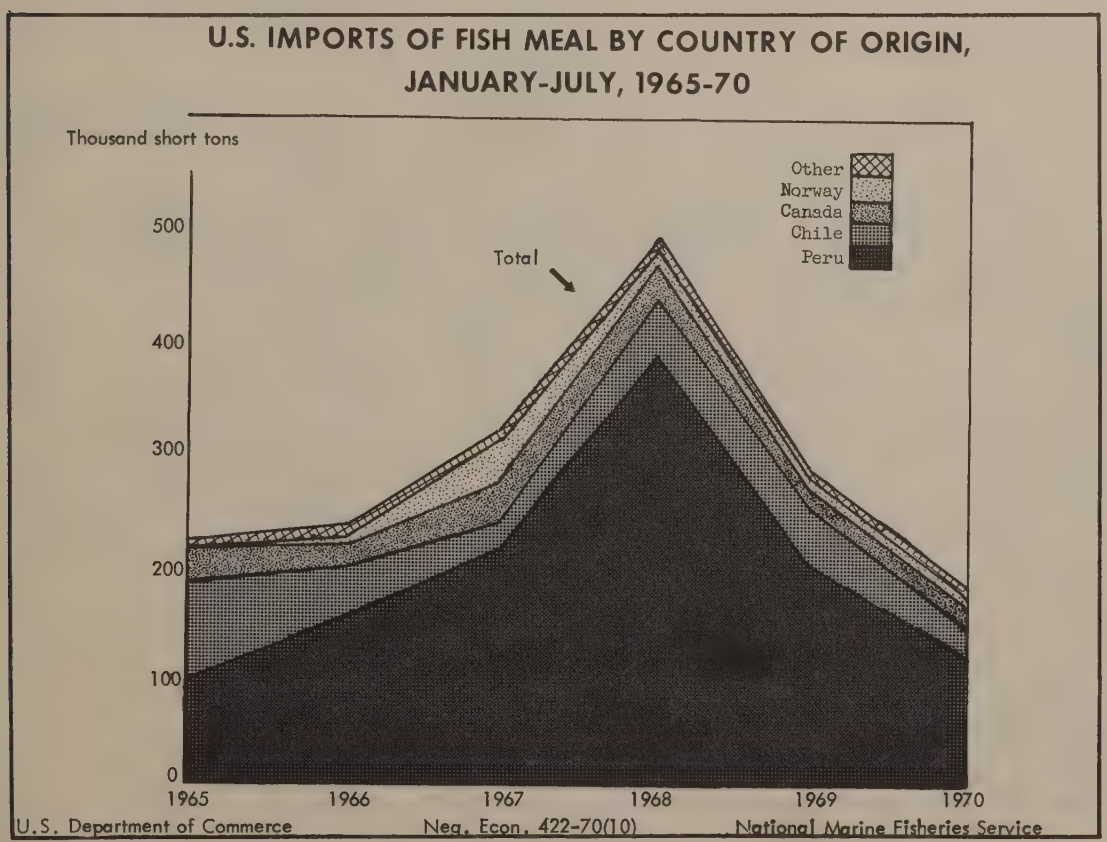


Figure 3

World Fish Meal Production--Up 13 Percent From 1969

World production of fish meal during the first 7 months of 1970 was an estimated 2,380,000 metric tons (2,625,000 short tons)--up 13 percent from the same period last year and up 16 percent from the 1965-69 average (table 9). These production figures do not include Mainland China, Japan, or the U.S.S.R. Major countries producing more in the first 7 months in 1970 than in 1969 were Canada, Denmark, Iceland, Norway, and Peru. Canada's fish meal production during January-July of this year was 11 percent above the same period in 1969 and Denmark's production was up 27 percent.

FEO countries made 84 percent of the reported world fish meal in January-July 1970--compared to 82 percent in 1969 and an average of 83 percent for the last 5 years.

FEO Production--Up 16 Percent From 1969

FEO countries produced an estimated 2,000,700 metric tons (2,205,400 short tons) of fish meal in January-July--up 16 percent from the production of the first 7 months of 1969 and up 18 percent from the 1965-69 average (table 9).

Peru alone produced 1,337,700 metric tons (1,474,500 short tons) or about two-thirds of the total FEO

Table 9.-- FEO[1] and total world production of fish meal, January-July, 1965-69 average, 1969, and 1970

Country	1965-69 average	1969	1970	Percent of FEO production: 1965-69 average	1969	1970[2]
	Thousand metric tons			Percent		
Angola	31.1	52.4	40.0	1.8	3.0	2.0
Chile	103.7	110.3	96.6	6.1	6.4	4.8
Iceland	60.1	53.3	60.4	3.6	3.1	3.0
Norway	244.2	183.1	236.6	14.4	10.6	11.8
Peru	990.4	1,011.1	1,337.7	58.3	58.5	66.9
South Africa and South West Africa	268.3	318.0	229.5	15.8	18.4	11.5
Total FEO[3]	1,697.8	1,728.3	2,000.7	100.0	100.0	100.0
Total world[4]	2,053.7	2,107.0	2,380.0[5]			
Percent FEO is of world				82.7	82.0	84.1

[1]Fishmeal Exporters Organization.
[2]Preliminary.
[3]Figures may not add to total because of rounding.
[4]FEO countries plus Belgium, Canada, Denmark, France, Sweden, United Kingdom, United States, and West Germany.
[5]Estimated.

Table 10.--Total FEO[1] exports of fish meal, and FEO exports to the United States, by month, 1965-69 average, 1969, and 1970

Month	1965-69 average			1969			1970[2]		
	Total FEO exports	FEO exports to the United States[3]		Total FEO exports	FEO exports to the United States[3]		Total FEO exports	FEO exports to the United States[3]	
	Thousand metric tons	Thousand metric tons	Percent	Thousand metric tons	Thousand metric tons	Percent	Thousand metric tons	Thousand metric tons	Percent
January	217.6	30.3	13.9	214.9	18.6	8.6	213.4	12.2	5.7
February	214.0	27.1	12.7	244.7	18.9	7.7	262.8	13.2	5.0
March	236.8	42.5	17.9	278.6	35.7	12.8	[4]281.8	11.2	4.0
April	228.5	41.4	18.1	280.4	47.8	17.0	[4]257.2	45.4	17.6
May	233.1	35.6	15.3	310.1	37.3	12.0	[4]277.4	26.2	9.4
June	225.1	44.2	19.6	239.8	44.8	18.7	[4]202.2	25.9	12.8
July	218.3	39.4	18.0	235.1	28.3	12.0	[4]253.8	4.3	1.7
August	174.3	40.1	23.0	161.3	9.1	5.6			
September	158.8	24.2	15.2	119.1	0.5	0.4			
October	170.9	23.0	13.5	148.1	10.1	6.8			
November	191.5	29.4	15.4	173.9	2.6	1.5			
December	227.5	36.2	15.9	154.3	6.1	4.0			
Total[5]	2,496.4	413.5	16.6	2,560.3	259.8	10.1			

[1]Fishmeal Exporters Organization: members are those countries listed in table 9.
[2]Preliminary.
[3]Based on imports of fish meal from FEO countries as reported by the U.S. Department of Commerce, Bureau of the Census.
[4]Estimated.
[5]Figures may not add to total because of rounding.

Table 11.--Total FEO[1] exports of fish meal, and FEO exports to the United States, January-July, 1965-69 average, 1969, and 1970

Country	1965-69 average			1969			1970[2]		
	Total FEO exports	FEO exports to the United States[3]		Total FEO exports	FEO exports to the United States[3]		Total FEO exports	FEO exports to the United States[3]	
	Thousand metric tons	Thousand metric tons	Percent	Thousand metric tons	Thousand metric tons	Percent	Thousand metric tons	Thousand metric tons	Percent
Angola	33.0	0.4	1.1	62.0	-	-	40.0[4]	-	-
Chile	83.3	28.2	33.8	109.8	46.6	42.4	67.6	10.5	15.6
Iceland	64.1	-	-	47.7	-	-	48.4	-	-
Norway	187.6	16.1	8.6	175.4	2.8	16.2	124.2	6.6	5.3
Peru	1,052.1	214.9	20.4	1,234.1	181.9	14.7	1,342.5	121.3	9.0
South Africa and South West Africa	153.4	1.3	8.5	174.5	-	-	125.8	-	-
Total[5]	1,573.5	260.8	16.6	1,803.6	231.4	12.8	1,748.5	138.4	7.9

[1]Fishmeal Exporters Organization: members are those countries listed in the table.
[2]Preliminary.
[3]Based on imports of fish meal from FEO countries as reported by the U.S. Department of Commerce, Bureau of the Census.
[4]Estimated.
[5]Figures may not add to total because of rounding.

production. This record amount was about 32 percent above Peru's production of January-July last year and 35 percent above 1965-69 average for the same period. The catch of anchovy was excellent--so good that the Peruvian Government imposed restricted fishing on May 13. A completely closed season started July 11 and lasted to the beginning of the new season on September 1. Last year, restricted fishing lasted from June 1 to August 31.

Norway's production of fish meal in January-June 1970 was up about 29 percent from a year ago. The Norwegian catch of fish used for industrial products in the first half of 1970 was about 43 percent greater than last year. The increase was due to the record catch of capelin, improved fishing for North Sea herring and good fishing for Norway pout.

FEO Exports--Down 3 Percent From Last Year

FEO countries exported an estimated 1,748,500 metric tons (1,927,400 short tons) of fish meal in January-July--down 3 percent from 1969 but up 11 percent from the 1965-69 average (tables 10 and 11). Exports of most member countries were considerably below last year. Exports from Chile were down 38 percent, partly because of increased domestic use and partly because of a dispute between fish meal producers and the shipping lines over freight rates to Europe. The dispute caused a sizable decrease in July exports. Exports from Norway were 29 percent less and exports from South Africa and South West Africa were 28 percent less than a year ago. However, a 9-percent increase in Peruvian exports of fish meal compensated for most of the decline. Exports from Peru in January-July 1970 were about 77 percent of the total FEO exports of fish meal--compared to 68 percent a year ago.

Only 8 percent of the total FEO exports went to the United States in January-July 1970--compared to 13 percent in 1969 and a 1965-69 average of 17 percent (table 11). Exports to the United States were especially low in July, amounting to about 2 percent of total FEO exports. U.S. buyers were holding back purchases of fish meal because of the continuous relatively high price of fish meal.

About 42 percent of FEO exports of fish meal went to EEC countries in the first 7 months of 1970--compared to 38 percent in 1969 and 33 percent in 1968 (table 12). The rapidly growing poultry industry, especially in West Germany, Netherlands, and France, has made possible the continuous growth of fish meal imports. However, the growth rate of these imports is considerably slower this year than a year ago. FEO exports of fish meal to EEC countries in January-July 1970 were up about 5 percent from the same period a year ago whereas the increase from the first 7 months of 1968 to the same period in 1969 was about 11 percent.

During the first 7 months of 1970, West Germany continued to be a major market for Peruvian fish meal. It took more than one-quarter of Peru's exports in that period-compared to about 22 percent a year ago. West Germany's imports were especially high in January and February, but in March, April, and June the market was relatively quiet and imports were below the comparable months a year ago. In July, West Germany's imports of fish meal from Peru revived, but at the end of July the imports dropped off again. This decline was caused by the increased prices and, especially, by the new contract conditions imposed by EPCHAP, (Empresa Publica de Comercialization de Harina y Aceite de Pescado) the fish meal marketing company of the Peruvian Government. The terms of the contract ruled that the weight and quality of fish meal be determined at the time of loading. Thus, the contract made it impossible to claim shortage or defects at the time of receipt of the shipment.

Table 12.--FEO[1] exports of fish meal to EEC (European Economic Community), the United States, and other countries, January-July, 1968, 1969, and 1970

Country	FEO exports			Percent of FEO total exports		
	1968	1969	1970[2]	1968	1969	1970
	Thousand metric tons			Percent		
EEC						
Belgium	38.2	39.5	26.8	2.0	2.2	1.6
France	45.2	43.8	51.3	2.4	2.4	2.9
Germany, West	323.4	378.3	419.5	17.1	21.0	24.0
Italy	73.8	71.8	69.9	3.9	4.0	4.0
Netherlands	141.4	158.0	159.6	7.5	8.8	9.1
Total	(622.0)	(691.5)	(727.1)	(33.0)	(38.4)	(41.6)
United States	413.5	221.6	131.5	21.9	12.3	7.5
Other						
Australia	16.0	15.0	17.8	0.8	0.8	1.0
Czechoslovakia	24.1	25.8	15.9	1.3	1.4	.9
Finland	17.6	18.6	15.2	.9	1.0	.9
Germany, East	60.8	63.1	63.6	3.2	3.5	3.6
Hungary	15.2	24.9	26.8	.8	1.4	1.5
Japan	92.0	76.4	81.4	4.9	4.2	4.7
Mexico	51.6	41.5	48.2	2.7	2.3	2.8
Poland	63.0	66.3	98.5	3.3	3.7	5.6
Spain	65.6	100.5	94.1	3.5	5.6	5.4
Sweden	33.1	36.4	34.1	1.8	2.0	1.9
United Kingdom	255.7	220.0	168.2	13.6	12.2	9.6
Venezuela	19.2	19.7	20.6	1.0	1.1	1.2
Yugoslavia	27.6	42.8	69.1	1.5	2.4	4.0
Other	108.9	139.4	136.4	5.8	7.7	7.8
Total[3]	(850.4)	(890.5)	(889.8)	(45.0)	(49.3)	(50.9)
Total	1,885.9	1,803.6	1,748.5	100.0	100.0	100.0

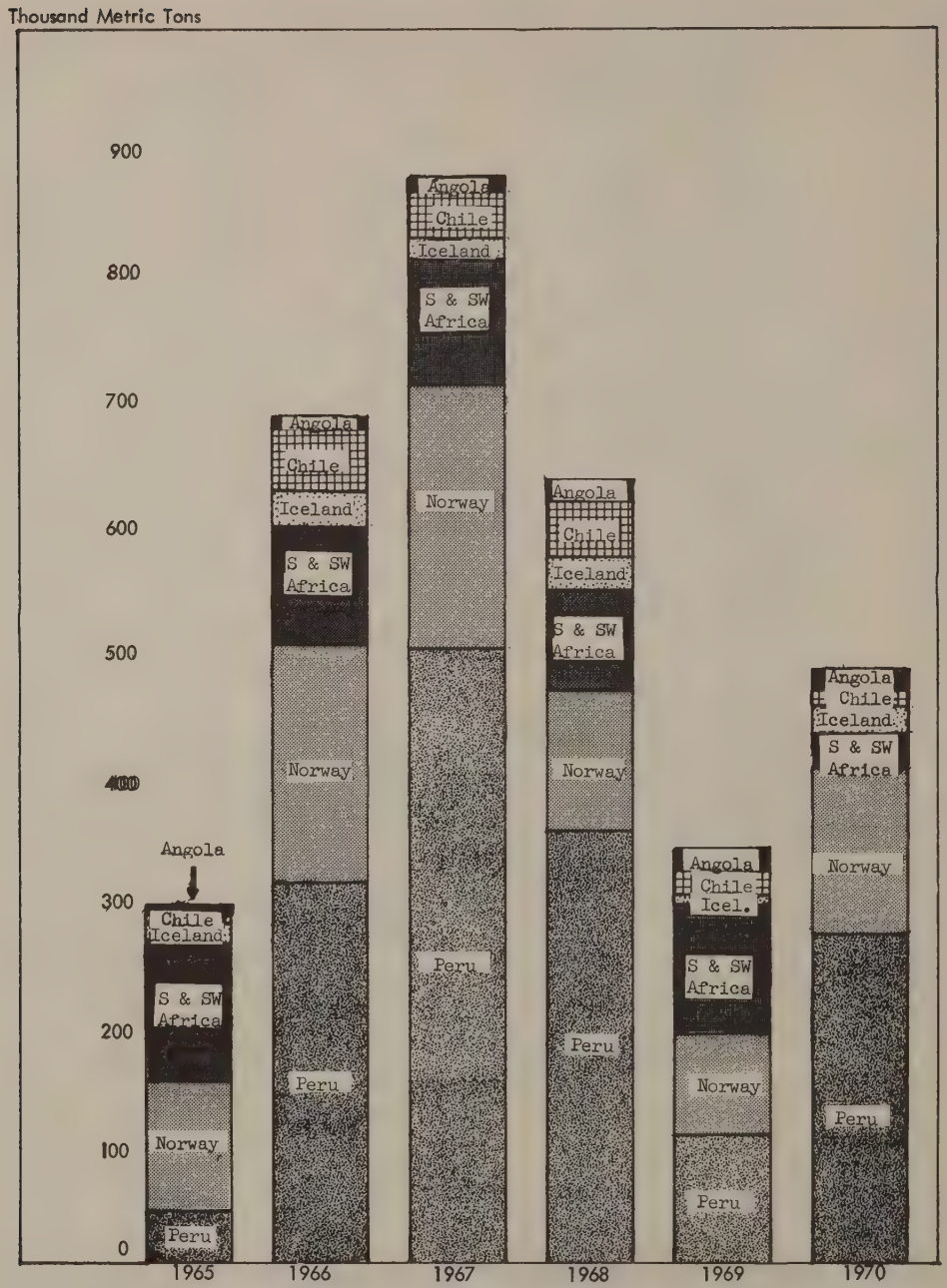
[1]Fishmeal Exporters Organization.
[2]Export figures for Angola and Iceland are estimates.
[3]Figures may not add to total because of rounding.

Table 13.--FEO[1] fish meal stocks held August 1, 1965-69 average, 1969, and 1970

Country	1965-69 average	1969	1970	Percent of FEO total stocks		
				1965-69 average	1969	1970[2]
	Thousand metric tons			Percent		
Angola	4.1	4.3	6.6	0.7	1.2	1.3
Chile	33.2	24.1	20.7	5.9	6.9	4.2
Iceland	16.2	4.2	10.5	2.8	1.2	2.1
Norway	133.2	63.2	134.1	23.2	17.9	26.9
Peru	287.2	139.7	281.5	50.1	39.6	56.6
South Africa and South West Africa	99.2	117.2	44.5	17.3	33.2	8.9
Total[3]	573.1	352.8	497.9	100.0	100.0	100.0

[1]Fishmeal Exporters Organization: members are those countries listed in the table.
[2]Preliminary.
[3]Figures may not add to total because of rounding.

FEO[1] FISH MEAL STOCKS HELD AUGUST 1, 1965-70



[1]Fishmeal Exporters Organization: members are those countries listed in the figure.

U.S. Department of Commerce Neg. Econ. 423-70(10) National Marine Fisheries Service

Figure 4

West European importers have negotiated with EPCHAP to remove the ruling; they reached a tentative agreement at the beginning of September.

The second largest market for Peruvian meal was the Netherlands, which took about 11 percent of Peru's exports. Peruvian shipments of fish meal to the United States were about 8 percent of the total in the first 7 months of 1970--compared to about 14 percent a year ago.

Peru increased its exports of fish meal to Poland and Yugoslavia. These countries took 11 percent of Peruvian exports in January-July 1970--compared to about 7 percent a year ago. East European countries received about 19 percent of Peru's exports of fish meal in the first 7 months of 1970.

FEO Stocks on August 1--Below 1965-69 Average

Stocks of fish meal held by FEO countries on August 1, 1970, were an estimated 497,900 metric tons (548,800 short tons)--up 41 percent from the very low stocks held at the same time last year but down 13 percent from the 1965-69 average for that date (table 13). Because of excellent catches during the first half of the year, fish meal stocks in Peru and in Norway on August 1, 1970, were twice as large as a year ago. On the other hand, stocks held by South Africa and South West Africa on August 1 were down 62 percent from a year ago and 55 percent below the 1965-69 average for the same date. Fish meal production in South Africa and South West Africa in January-July 1970 was low. Peru's stocks on August 1 were about 57 percent of total FEO stocks--compared to 40 percent last year (table 13). Norway held about 27 percent of the stocks--compared to 18 percent a year ago. The share of South Africa and South West Africa was only about 9 percent of the FEO stocks on August 1--compared to 33 percent last year.

Table 14.--Broiler chick placements in 22 States, and average broiler price at the farm, by month, 1967-70

Month	1967		1968		1969		1970[1]	
	Chicks placed	Broiler price	Chicks placed	Broiler price	Chicks placed	Broiler price	Chicks placed	Broiler price
	Million	Cents/lb.	Million	Cents/lb.	Million	Cents/lb.	Million	Cents/lb.
January	192.0	13.9	196.4	13.5	201.2	14.3	288.0	14.8
February	204.1	15.4	199.5	14.6	211.8	15.0	240.2	14.3
March	217.6	14.3	261.0	14.6	282.9	15.3	251.0	14.8
April	272.9	13.8	215.1	14.2	234.0	14.7	256.4	13.7
May	217.6	13.3	274.1	14.6	295.9	14.8	317.3	13.9
June	214.8	13.5	218.7	15.0	235.3	15.2	251.8	13.3
July	259.6	14.7	208.5	15.5	220.4	17.3	286.7	13.6
August	199.9	12.9	248.5	14.8	265.4	16.5	221.1	13.2
September	224.7	12.6	178.3	14.1	204.5	15.6		
October	175.0	12.2	184.6	12.8	204.8	14.7		
November	185.7	11.5	242.1	13.6	270.6	14.2		
December	230.8	11.6	194.8	13.4	219.4	13.5		
Total placements[2] and average price[3]	2,594.7	13.4	2,621.7	14.1	2,846.2	15.2		

[1]Preliminary.
[2]Figures may not add to total because of rounding.
[3]Weighted average.

Sources: Commercial Broilers: Annual Production and Weekly Placements, U.S. Department of Agriculture, Statistical Reporting Service, and Poultry and Egg Situation, U.S. Department of Agriculture, Economic Research Service.

Demand

Broiler Chick Placements--Up 12 Percent From Last Year

About 1.9 billion broiler chicks were placed on farms in the leading broiler-producing States in January-July 1970--12 percent more than in the same period last year and 21 percent more than 1965-69 average for the same period (table 14).

The record high production of broilers depressed their prices: broiler prices at the farm declined from an average of 14.8 cents per pound in January to 13.2 cents per pound in September. The September price was 15 percent below the average price of broilers in the same month a year ago. The high level of broiler placements has not increased the use of fish meal because of the relatively high price ratio of fish meal to soybean meal. Whereas the apparent use of fish meal in January-July was down from the previous year, use of soybean meal was about 20 percent higher in the first 7 months of 1970 than during the same period a year ago.

Soybean Meal Prices--Fluctuating Widely

Average monthly prices of 50 percent soybean meal at Decatur, Ill., fluctuated widely in January-July 1970, ranging from $97.60 per ton in January to $78.90 per ton in May (table 15). The average price for January was about $18 per ton above the same month a year ago, whereas the average price for May was about $6 lower than May of last year. The price for August this year was $92.50, more than $8 higher than a year ago. In September prices averaged $88.20 per ton, $5.50 above last year. Most of the price instability of soybean meal was caused by variations in foreign and in domestic demand, record-level crushing of soybeans, transportation problems, and strikes.

Ratios of the price of fish meal to the price of soybean were higher than a year ago in the first 6 months, thus favoring the use of soybean meal in the feed (table 16). In July and August, the ratio was smaller than a year ago but still considerably above the most recent 5-year average.

Prices

Fish Meal Prices--Declining Slightly

Prices of menhaden meal, as quoted by brokers at New York City, declined from an average of $197.50 per ton in May to an average of $172.90 per ton, f.o.b. East Coast and Gulf ports, in August (table 17 and fig. 5). Prices increased again in September and averaged $177.80 per ton--only about $6 higher than the price for September a year ago.

Average monthly prices for 60 percent tuna and mackerel meal at Los Angeles declined from a high of $181 per ton in May to $167.90 per ton in August. The highest price was still $20.90 per ton more than a year ago (table 18).

New York prices for Peruvian fish meal followed the same pattern as menhaden meal prices from May to September (table 19 and fig. 6). Prices declined from an average of $202.10 per ton in May to an average of $179.10 per ton, f.o.b. East Coast ports, in August and then increased to $184 per ton in September. Very little Peruvian meal has been purchased at these prices in the United States. Prices for Peruvian fish meal as quoted in Hamburg, West Germany, declined during the first quarter of the year but increased again from the March low of $159 per ton, c.i.f. European ports, to $189 in July (table 20 and fig. 7). Although increasing, the prices were relatively low from March to June and reflected a somewhat softer market situation in Germany during these months. In July, the European c.i.f. price exceeded the U.S. price f.o.b. East Coast and Gulf ports and thus indicated a strengthening demand for fish meal in Europe.

Table 15.--Average monthly price of soybean meal[1] at Decatur, Ill., 1964-70

Month	1964	1965	1966	1967	1968	1969	1970
	Dollars per short ton						
January	85.40	75.40	85.00	89.30	81.30	79.50	97.60
February	82.60	77.20	86.20	85.20	80.20	78.40	95.60
March	82.30	76.10	80.00	83.70	80.40	80.10	79.60
April	80.00	78.40	82.40	80.70	80.90	81.30	83.10
May	74.20	77.70	89.00	80.10	81.90	84.90	78.90
June	73.20	85.10	101.00	87.20	89.10	88.20	82.70
July	72.90	86.00	104.10	85.00	92.00	86.20	92.50
August	71.00	80.50	106.10	86.90	94.50	84.10	92.50
September	77.10	89.20	97.90	87.60	95.50	82.70	88.20
October	76.80	80.80	91.50	78.20	85.30	82.10	
November	72.70	84.50	86.40	78.10	79.40	76.90	
December	75.50	78.30	92.70	79.40	79.40	90.40	
Average[2]	77.00	80.75	91.85	83.45	85.00	82.90	

[1]50 percent protein, bulk.
[2]Simple average.

Source: Feed Market News, U.S. Department of Agriculture, Consumer and Marketing Service, Grain Division.

Table 16.--Ratio of Peruvian fish meal price[1] to soybean meal price[2], by month, 1963-70

Month	1963	1964	1965	1966	1967	1968	1969	1970
	Price ratio							
January	1.67	1.56	1.88	2.04	1.66	1.48	1.75	2.02
February	1.60	1.61	1.88	1.98	1.64	1.48	1.80	1.92
March	1.60	1.61	1.88	2.07	1.61	1.44	1.75	2.42
April	1.60	1.58	1.89	1.86	1.62	1.42	1.80	2.41
May	1.61	1.70	1.98	1.75	1.59	1.61	1.90	2.56
June	1.55	1.72	1.96	1.54	1.50	1.57	1.90	2.39
July	1.49	1.78	2.01	1.55	1.55	1.56	2.01	2.00
August	1.40	1.87	2.25	1.52	1.51	1.46	2.05	1.94
September	1.42	1.75	2.04	1.56	1.47	1.39	2.08	2.09
October	1.53	1.82	2.29	1.56	1.59	1.51	2.36	
November	1.51	1.95	2.20	1.68	1.55	1.65	2.63	
December	1.55	1.87	2.30	1.64	1.52	1.74	2.26	
Average	1.54	1.71	1.92	1.70	1.56	1.54	1.89	

[1]F.o.b. East Coast ports for 65 percent protein meal, bagged, as quoted at New York City.
[2]Wholesale at Decatur, Ill., for 50 percent solvent meal, bulk.

Table 17.--Average monthly price of menhaden meal[1], f.o.b. East Coast and Gulf points, 1965-70

Month	1965	1966	1967	1968	1969	1970.
	Dollars per short ton					
January	144.15	[2]179.80	153.10	[2]131.00	149.25	195.90
February	146.25	[2]172.55	[2]154.00	[2]131.00	153.00	196.50
March	150.00	[2]170.60	[2]154.00	[2]131.00	153.00	189.90
April	153.00	[2]163.00	135.00	[2]131.00	[2]154.00	197.50
May	156.00	[2]153.80	135.80	[2]131.00	174.00	197.50
June	160.90	160.35	139.00	149.00	172.60	193.80
July	170.25	164.00	137.40	149.65	171.90	179.00
August	172.10	169.00	137.10	149.00	168.90	172.90
September	175.00	166.20	136.75	145.00	171.60	177.80
October	185.40	160.00	136.00	141.60	189.30	
November	186.00	151.15	[2]132.00	140.50	200.10	
December	186.00	153.10	[2]131.60	145.10	199.25	
Average[3]	168.50	161.05	136.55	145.30	174.30	

[1]60 percent protein, bagged, as quoted by brokers at New York City.
[2]Nominal price as presented in the Oil, Paint and Drug Reporter.
[3]Average weighted by monthly production of menhaden meal.

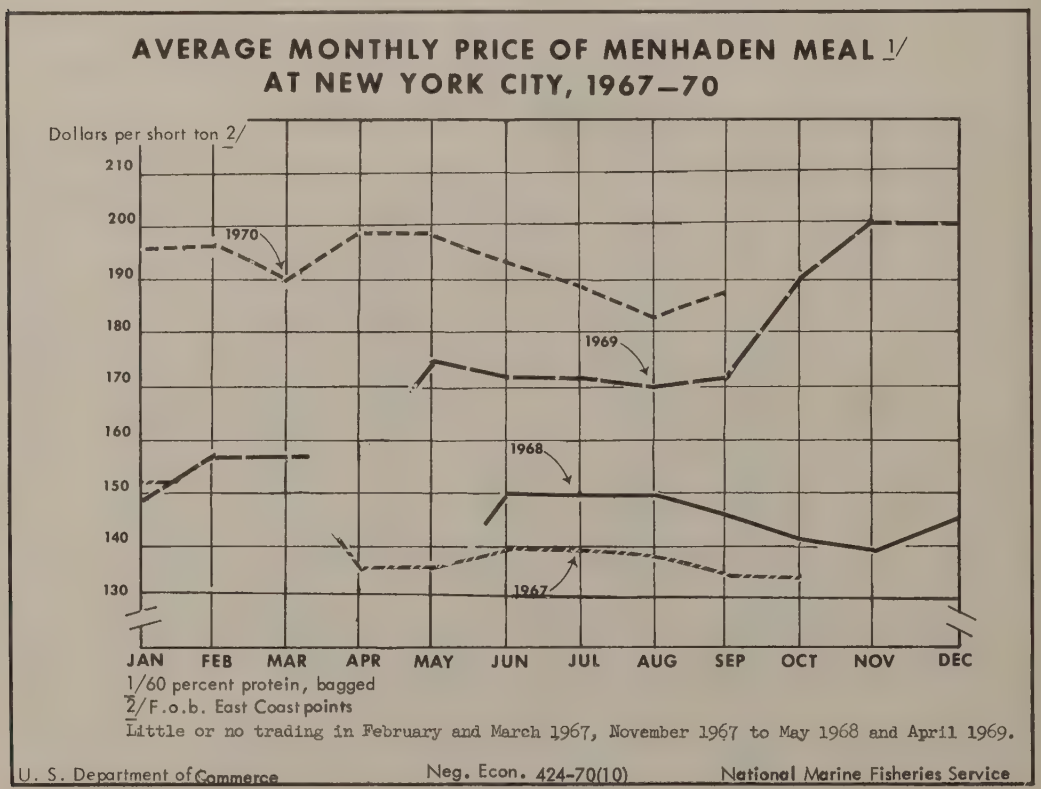


Figure 5

Table 18.--Average monthly price of tuna and mackerel meal[1] at Los Angeles, 1965-70

Month	1965	1966	1967	1968	1969	1970
	Dollars per short ton					
January	136.20	174.60	144.00	123.00	132.60	172.50
February	137.40	174.60	144.00	124.80	135.00	172.50
March	139.20	167.40	142.80	124.80	133.80	[2]177.00
April	141.60	148.80	139.80	115.50	127.80	177.00
May	146.40	141.00	127.20	117.00	138.60	[2]181.00
June	150.60	138.00	124.80	121.50	145.80	174.00
July	157.20	141.60	123.00	127.50	147.00	174.00
August	166.20	144.00	123.00	132.00	147.00	167.90
September	174.00	144.00	121.80	132.00	150.00	
October	174.60	144.00	120.00	132.00	168.00	
November	174.60	144.00	120.00	132.00	177.00	
December	174.60	144.00	120.60	132.00	172.20	
Average[3]	157.75	148.10	129.60	125.85	146.15	

[1]60 percent protein, bagged, as quoted by brokers at Los Angeles.
[2]Tuna, mackerel, and anchovy meal.
[3]Average weighted by monthly production of tuna and mackerel meal.

Table 19.--Average monthly price of Peruvian fish meal[1], f.o.b. East Coast ports, 1965-70

Month	1965	1966	1967	1968	1969	1970
	Dollars per short ton					
January	141.60	173.00	148.20	120.20	139.50	197.50
February	144.90	170.90	140.00	119.00	141.00	183.50
March	142.70	165.80	134.50	116.00	140.50	192.70
April	148.40	153.75	130.50	115.20	146.80	200.50
May	153.75	155.40	127.70	131.90	161.00	202.10
June	166.50	155.50	131.25	140.00	168.00	197.80
July	172.90	161.00	131.60	143.20	173.50	185.80
August	181.00	161.00	131.50	137.90	172.10	179.10
September	182.50	152.25	128.90	132.75	172.00	184.00
October	184.90	143.10	124.30	129.20	193.40	
November	186.00	144.80	121.00	131.00	202.40	
December	180.25	152.50	121.00	138.10	204.00	
Average[2]	154.65	156.40	130.15	130.95	157.10	

[1]65 percent protein, bagged, as quoted by brokers at New York City.
[2]Average weighted by monthly imports of Peruvian fish meal.

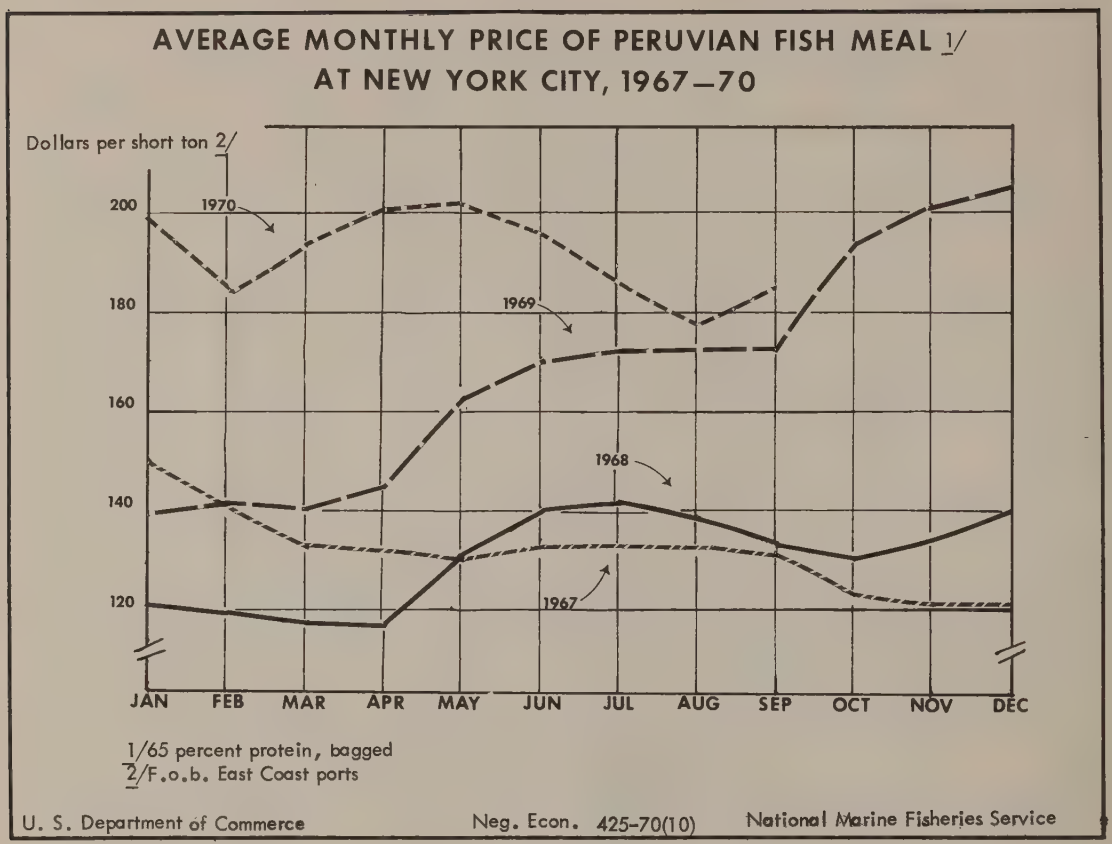


Figure 6

Table 20.--Average monthly prices of Peruvian fish meal[1] in the United States, and in Europe, 1967-70

Year and location	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Dollars per short ton											
1967												
Price F.O.B. East Coast & Gulf Ports[2]	148.20	140.00	134.50	130.50	127.70	131.25	131.60	131.50	128.90	124.30	121.00	121.00
Price C.I.F. European Ports	150.00	150.00	150.00	136.00	(3)	(3)	(3)	(3)	155.00	(3)	120.00	120.00
1968												
Price F.O.B. East Coast & Gulf Ports[2]	120.20	119.00	116.00	115.20	131.90	140.00	143.20	137.90	132.75	129.20	131.00	138.10
Price C.I.F. European Ports	120.00	120.00	116.00	113.00	120.00	129.00	128.00	125.00	120.00	115.00	121.00	130.00
1969												
Price F.O.B. East Coast & Gulf Ports[2]	139.50	141.00	140.50	146.80	161.00	168.00	173.50	172.10	172.00	193.00	202.40	204.00
Price C.I.F. European Ports	125.00	134.00	130.00	133.00	149.00	157.00	162.00	158.00	166.00	207.00	205.00	201.00
1970												
Price F.O.B. East Coast & Gulf Ports[2]	197.50	183.50	192.70	200.50	202.10	197.00	185.80	179.10	184.00			
Price C.I.F. European Ports	185.00	181.00	159.00	171.00	179.00	187.00	189.00[4]	189.00[4]	189.00[4]			

[1] 65 percent protein, bagged.
[2] Importers' selling price in New York City f.o.b. United States East Coast and Gulf ports.
[3] Not quoted.
[4] Preliminary.

Source for European price: Foreign Agriculture Circular, U.S. Department of Agriculture, Foreign Agricultural Service.

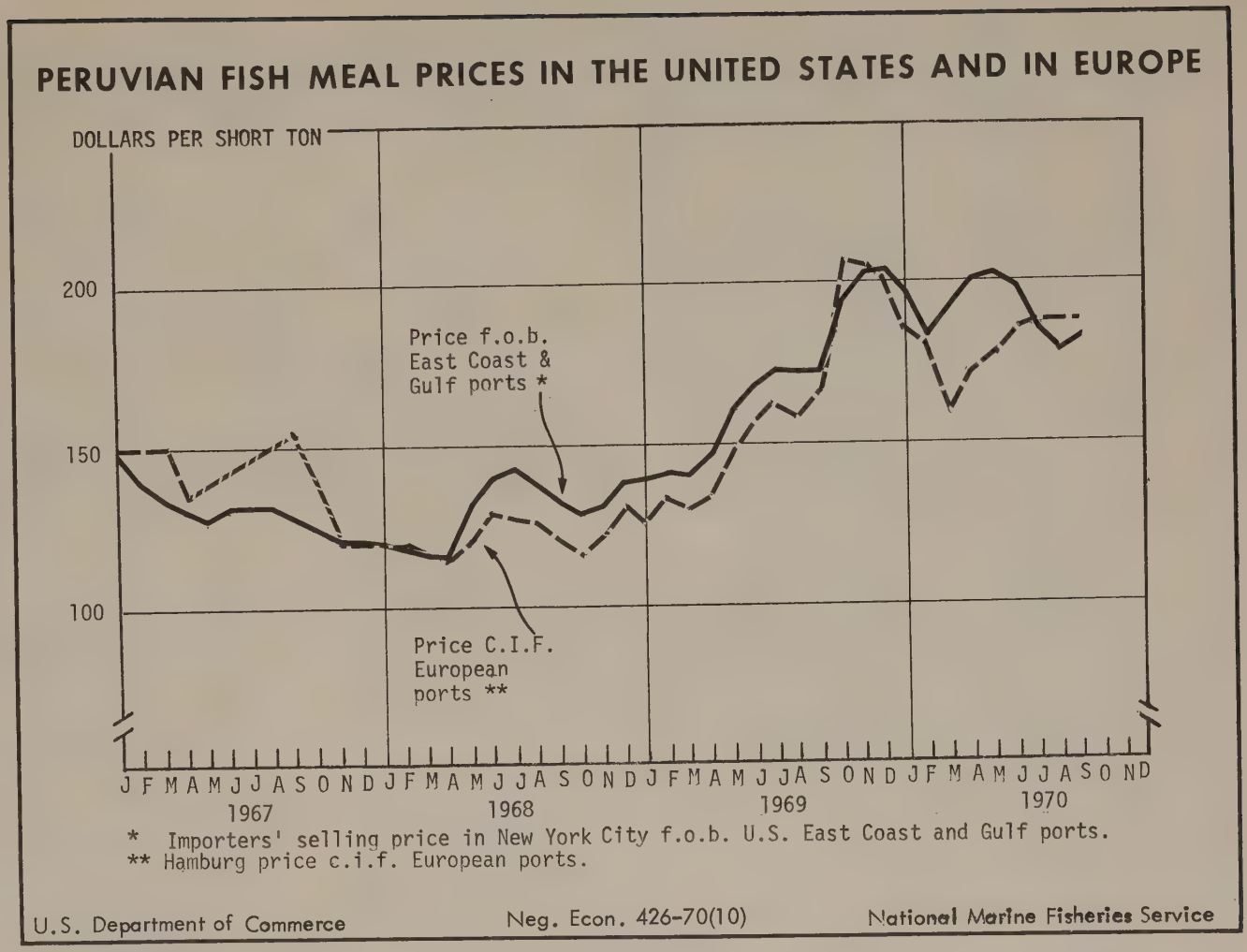

PERUVIAN FISH MEAL PRICES IN THE UNITED STATES AND IN EUROPE
DOLLARS PER SHORT TON
200
150
100
Price f.o.b. East Coast & Gulf ports *
Price C.I.F. European ports **
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1967
1968
1969
1970
* Importers' selling price in New York City f.o.b. U.S. East Coast and Gulf ports.
** Hamburg price c.i.f. European ports.
U.S. Department of Commerce
Neg. Econ. 426-70(10)
National Marine Fisheries Service

Figure 7

OUTLOOK: OCTOBER-DECEMBER 1970

Demand

The use of fish meal in the United States during the fourth quarter of this year will depend primarily on the price development during that period. At the end of September, the price of Peruvian fish meal f.o.b. East Coast ports, averaged $184.20 per ton and the ratio of the Peruvian fish meal price to soybean meal price was 2.08:1. If this price situation continues through the fourth quarter of 1970, use of fish meal in the United States would be 90,000 to 120,000 tons--compared to 78,600 tons in the fourth quarter of last year. Even if the broiler industry reduces placements of broiler chicks during the fourth quarter this year, as recommended by U.S.D.A., we estimate the use of fish meal will be above the low use of the fourth quarter last year. At that time the ratio between the price of Peruvian fish meal and the price of soybean meal was 2.42:1, and the price of Peruvian fish meal f.o.b. East Coast ports, averaged $200 per ton. Reduction in the broiler placements will have a bearish influence on the market for U.S. fish meal. If the Peruvian price were to decline during the fourth quarter, the United States use of fish meal probably would increase.

Supply

U.S. production of fish meal in August was 17 percent above last year, but September production has been running below last year. We estimate production in the fourth quarter to be 45,000 tons to 50,000 tons--compared to 41,300 tons last year. Total production for the year is estimated to be 265,000 to 270,000 tons--compared to 244,100 tons in 1969. About 75 percent of this meal is expected to come from menhaden.

The Peruvian fishing season, which opened September 1, has been very successful, and September production of fish meal is expected to be about 230,000 metric tons--more than twice the production for the same month a year ago. Peruvian stocks of fish meal on August 1 were also more than twice the stocks a year ago but about the same as the most recent 5-year average. If the Peruvians do not close the anchovy fishery before the end of the year, stocks of fish meal are likely to increase and have a bearish influence on the market. Peruvian exports in September are estimated to be about 250,000 metric tons. This would make Peru's stocks of fish meal at the beginning of the fourth quarter about 261,000 metric tons--compared with 99,900 metric tons last year and with the latest 5-year average stocks of 230,300 metric tons for the same date. These relatively high stocks will tend to depress the prices for the fourth quarter of the year. Peruvians' selling policies and fishery management policies, however, can affect stock levels and prices.

If during the fourth quarter of this year the price of Peruvian fish meal remains at the end-of-September-level, we estimate that 50,000 to 75,000 tons of fish meal would be imported to the United States during the fourth quarter--compared to 37,300 tons a year ago. We estimate the total imports for the year will be considerably less than last year's imports--255,000 to 290,000 tons compared with 358,400 tons last year.

If imports for the fourth quarter are 50,000 to 75,000 tons and domestic production is 45,000 to 50,000 tons, then total supplies for the fourth quarter would be 95,000 to 125,000 tons--compared with 78,600 tons last year. Adding up the estimated fish meal production and imports for the whole year shows that the total supplies for 1970 will be 530,000 to 560,000 tons. This amount would be down about 10 percent from last year and down 26 percent from the 1965-69 average.

FISH SOLUBLES

REVIEW: JANUARY-JULY 1970

Supply

Supplies of Fish Solubles in January-July--Up 20 Percent From 1969

Total fish solubles available in the United States (excluding stocks which are not reported) during January-July of this year were about 53,200 tons--up 20 percent from 1969 and up 12 percent from the most recent 5-year average for this period (table 21). Almost all of the fish solubles were produced domestically.

Production of Fish Solubles--Up 20 Percent From 1969

The United States produced about 52,800 tons of fish solubles in the first 7 months of 1970--up 20 percent from last year and up 17 percent from 1965-69 average. About 80 percent of the solubles were made from menhaden, and about 70 percent of the menhaden solubles were produced in the Gulf Coast area.

Imports of Fish Solubles During January-July--Up From Last Year

About 424 tons of fish solubles were imported to the United States during January-July 1970--compared to about 80 tons in 1969 and a 1965-69 average of 2,200 tons. All solubles imported this year came during the first quarter.

Demand

Prices of menhaden solubles, as quoted by brokers in New York City were above those of last year in each month from March to August (table 22). The May price of $54.70 per ton, f.o.b. Gulf Coast plants, was the highest, and the August price of $50.45 f.o.b. East Coast plants was the lowest during this period. The September price, however, was slightly lower than a year ago. The average price of $54.30 per ton for January-August 1970 was $2.60 per ton higher than the average for the same period in 1969, but about $8 per ton lower than January-August average in 1965-69. The price comparison suggests that the demand for fish solubles in January-August 1970 improved from last year but was still relatively weak compared to earlier years.

Table 21--Total fish solubles available in the United States: production plus imports, by month, 1963-70

Month	1963	1964	1965	1966	1967	1968	1969[1]	1970[1]
	Thousand short tons							
January	1.7	1.9	1.8	1.6	2.0	0.6	0.8	1.3
February	1.7	1.4	2.8	1.8	1.2	0.7	1.4	1.7
March	3.1	1.2	1.3	3.8	2.1	2.3	1.5	2.1
April	4.3	4.3	3.9	5.0	6.6	4.1	5.1	3.6
May	16.1	13.2	10.9	9.4	7.2	6.3	11.1	9.6
June	14.4	19.1	18.0	15.3	13.6	10.8	12.5	15.6
July	15.5	19.5	18.7	14.1	12.5	14.9	11.9	19.3
August	19.0	14.8	18.2	12.8	12.3	11.8	11.0	
September	11.7	10.1	9.0	9.9	6.8	9.0	12.7	
October	7.8	5.3	6.8	5.4	5.1	6.1	5.8	
November	5.1	4.0	5.9	5.9	5.5	4.3	4.6	
December	6.7	3.0	2.6	2.6	3.5	3.2	3.8	
Total[2]	107.3	97.8	99.9	87.7	78.3	76.6	82.2	

[1]Preliminary.
[2]Figures may not add to total because of rounding.

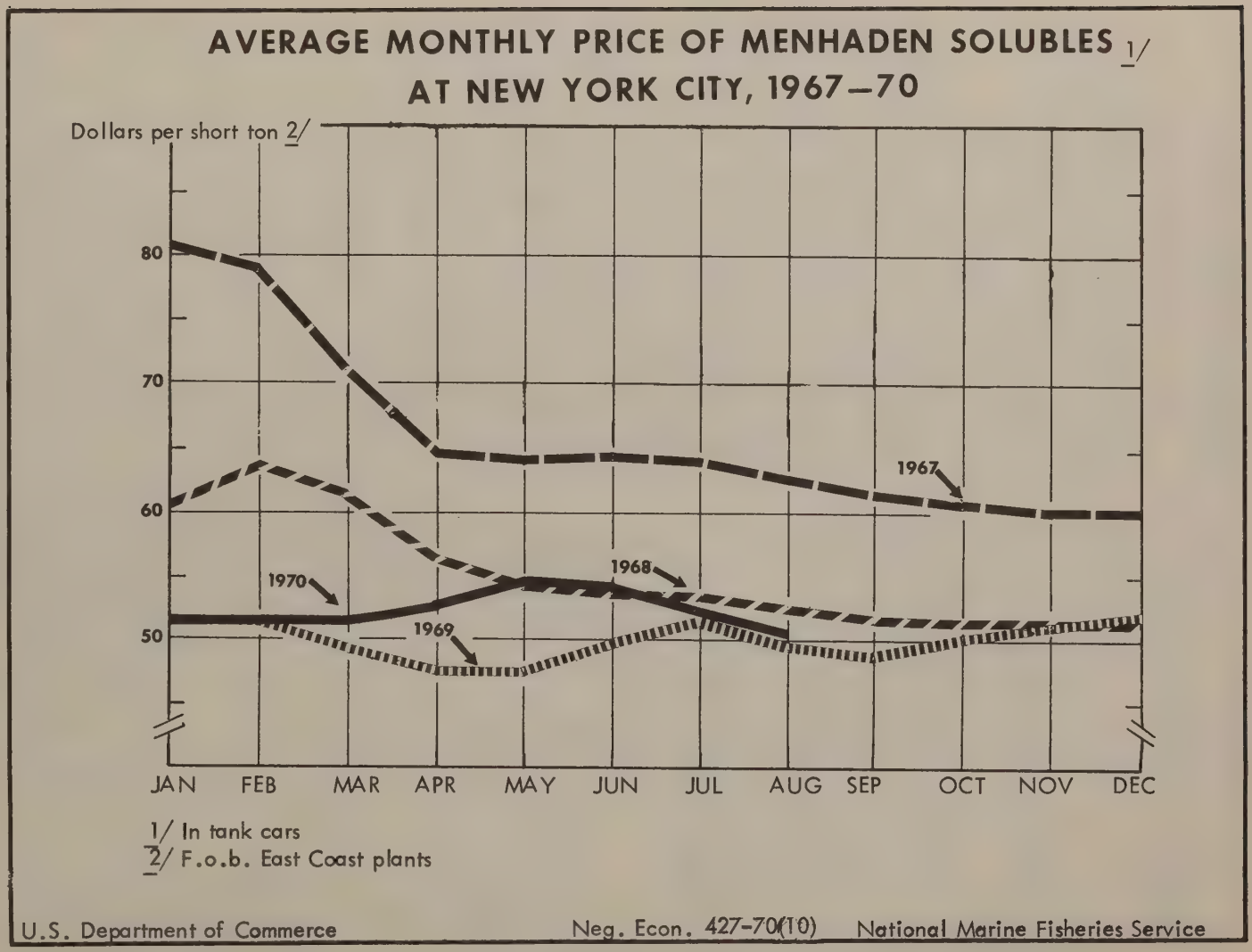

AVERAGE MONTHLY PRICE OF MENHADEN SOLUBLES 1/
AT NEW YORK CITY, 1967–70
Dollars per short ton 2/
80
70
60
50
1967
1968
1970
1969
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
1/ In tank cars
2/ F.o.b. East Coast plants
U.S. Department of Commerce
Neg. Econ. 427-70(10)
National Marine Fisheries Service

Figure 8

OUTLOOK: OCTOBER-DECEMBER 1970

Demand

The apparent use of fish solubles during the fourth quarter in the past 4 years has been around 14,000 tons, although the average price for these quarters varied from $51.45 per ton, in 1969 to $80 in 1966. These figures indicated that the use of fish solubles is not influenced much by the prices in the price range from $50 to $80 per ton even at relatively high fish meal prices.

Supply

Based on production in the first part of the year, we estimate that about 12,000 to 14,000 tons of fish solubles will be made in the fourth quarter of 1970. About 80 percent of these solubles will come from menhaden. Imports of solubles are expected to be negligible.

FISH OIL

REVIEW: JANUARY-JULY 1970

Supply

U.S. Fish Oil Production for January-July--Up 22 Percent From Last Year

The United States produced an estimated 105.6 million pounds of fish oil in January-July 1970--up 22 percent from 1969 and up 23 percent from the 1965-69 average for the same period (tables 23 and 24). The increase was due to larger production of menhaden oil which was up 27 percent from last year. About 95 percent of the fish oil was made from menhaden in the first 7 months of this year--compared to 91 percent last year (table 24). About 79 percent of the menhaden oil was produced in the Gulf Coast area.

Table 22.--Average monthly price of menhaden solubles[1], f.o.b. East Coast plants, 1965-70

Month	1965	1966	1967	1968	1969	1970
	Dollars per short ton					
January	58.60	66.25	80.85	60.50	51.25	51.25
February	59.40	66.50	79.00	63.75	51.25	50.90
March	61.25	66.70	70.75	61.25	49.40	51.75
April	56.25	68.75	64.60	56.25	47.75	52.80
May	53.75	68.75	64.00	54.05	47.50	[3]54.70
June	55.75	68.75	64.40	53.75	49.75	[3]54.30
July	56.85	68.75	64.05	53.50	51.25	51.90
August	60.00	68.75	62.85	52.50	49.40	50.45
September	61.25	72.50	61.25	51.90	48.75	48.70
October	63.95	78.75	60.75	51.50	50.60	
November	65.25	79.25	60.00	51.55	51.25	
December	66.25	81.90	60.00	51.25	52.50	
Average[2]	58.30	70.75	63.25	52.90	49.60	

[1]In tank cars; prices quoted by brokers at New York City.
[2]Weighted average.
[3]F.o.b. Gulf Coast plants only.

Table 23.--U.S. production of fish oil by month, 1963-70

Month	1963	1964	1965	1966	1967	1968	1969	1970[1]
	Million pounds							
January	0.5	0.5	0.6	0.4	1.2	0.6	0.6	0.7
February	.4	.2	.5	.2	.6	.3	.6	.5
March	.4	.7	.7	1.0	.9	.6	.6	.7
April	6.5	4.4	10.6	5.5	3.6	4.2	6.1	3.2
May	33.5	29.9	23.2	19.3	9.4	10.3	20.8	22.3
June	28.2	42.9	41.6	34.7	20.5	22.0	28.0	38.2
July	29.0	33.8	41.6	29.6	21.6	36.8	30.0	40.0
August	34.6	28.4	37.8	22.5	22.4	31.1	26.7	39.0
September	21.2	19.8	18.1	20.5	13.6	27.4	28.9	
October	15.0	5.6	9.5	7.8	9.3	21.0	13.8	
November	10.1	8.3	8.2	16.4	13.5	12.3	8.5	
December	6.4	5.7	3.1	6.8	5.8	6.5	5.1	
Total	185.8	180.2	195.5	164.7	122.4	173.1	169.8	

[1] Preliminary.

Table 24.--U.S. production of fish oil by raw material source, January-July, 1965-69 average, 1969, and 1970

Source	1965-69 average	1969	1970	Percent of total U.S. production: 1965-69 average	1969	1970[1]
	Million pounds			Percent		
Menhaden	76.1	79.2	100.4	88.8	91.3	95.1
Tuna, mackerel, and anchovies	2.5	2.4	2.2	2.9	2.8	2.1
Unclassified	7.1	5.1	3.0	8.3	5.9	2.8
Total[2]	85.7	86.7	105.6	100.0	100.0	100.0

[1] Preliminary.
[2] Figures may not add to total because of rounding.

Note: Percents are calculated with unrounded numbers.

Table 25.--Industrial use of fish oil in the United States, by month, 1963-70[1]

Month	1963	1964	1965	1966	1967	1968	1969	1970[2]
	Million pounds							
January	5.0	3.9	3.2	2.4	2.9	2.6	1.8	3.1
February	3.8	3.9	3.2	3.5	2.8	2.6	3.1	2.9
March	3.9	3.9	3.3	3.3	2.8	3.0	3.1	2.4
April	4.0	4.6	3.4	3.5	4.1	2.5	3.2	2.8
May	4.2	4.2	3.0	3.7	3.1	2.6	1.9	3.2
June	4.7	4.0	4.0	3.8	3.3	2.5	3.9	3.2
July	5.0	3.4	3.2	2.7	3.0	2.7	2.2	2.7
August	4.6	4.7	4.5	3.7	3.1	2.2	2.5	
September	4.2	4.2	4.3	3.9	3.2	2.8	3.3	
October	5.0	3.8	3.9	2.5	2.4	2.5	3.0	
November	3.7	3.6	4.4	2.7	2.5	2.4	3.3	
December	4.0	3.5	4.1	3.1	2.6	1.6	2.8	
Total[3]	52.1	47.7	44.5	38.8	35.8	30.0	34.1	

[1]Includes mammal oil other than sperm oil, and includes some hydrogenated fats (vegetable and animal) and other fats and oils in process.
[2]Preliminary.
[3]Figures may not add to total because of rounding.

Table 26.--U.S. exports of fish oil by month, 1963-70

Month	1963	1964	1965	1966	1967	1968	1969	1970[1]
	Million pounds							
January	0.1	0.2	0.1	2.3	17.9	0.9	4.0	11.1
February	2.4	23.5	.1	4.2	[2]	6.0	8.9	.4
March	44.4	.2	11.4	9.9	10.5	12.6	19.8	13.9
April	28.5	22.8	.1	.1	[2]	.1	21.1	4.3
May	22.1	9.3	.3	17.8	.1	[2]	8.8	4.4
June	.3	.1	18.1	12.9	.8	[2]	15.5	2.4
July	29.3	40.5	16.2	19.5	2.3	.1	19.3	30.3
August	37.5	9.6	21.2	6.1	24.8	7.0	24.7	
September	22.4	14.2	13.5	[2]	10.2	3.4	7.9	
October	41.9	19.8	10.8	4.3	5.7	11.4	5.7	
November	.1	.1	.2	.1	2.2	1.8	33.3	
December	33.3	11.1	11.8	.1	2.3	21.8	27.0	
Total	262.3	151.4	103.8	77.3	76.8	65.1	196.1	

[1]Preliminary.
[2]Less than 50,000 pounds.

Demand

Domestic Use of Fish Oil--Up 6 Percent From 1969

The United States used about 20.3 million pounds of fish oil (including mammal oil other than sperm, and some hydrogenated vegetable and animal fats) during January-July 1970--up 6 percent from 1969 but down 4 percent from the 1965-69 average for the same period (table 25). Domestic use of fish oil in industrial products in the United States has generally decreased over the years. In January-July 1963, for example, about 30.6 million pounds were used or 50 percent more than during the same months in 1970. The January-July figure declined steadily to 18.5 million pounds in 1968. A change to the declining pattern took place in 1969. The use of inedible fish oil was 4 percent higher during the first 7 months in 1969 than a year before, and the increase has continued in 1970. The major use of fish oil in the United States is for protective coatings.

Exports of Fish Oil--Above Average

The United States exported 67.1 million pounds of fish oil during the first 7 months of 1970--down 31 percent from the unusually high exports of 1969 but up 28 percent from the 1965-69 average (table 26). These relatively high exports were in response to a heavy European demand for all oils. If there had been more fish oil in the United States, exports likely would have been higher.

About 36 percent of the fish oil exports went to the Netherlands--compared to 65 percent a year ago (table 27). The Netherlands nearly doubled fish oil imports from Peru during the first 7 months this year compared to the same period a year ago.

Norway was the second largest market for United States fish oil and took 14.8 million pounds or about 22 percent of January-July exports: all of the exports to Norway were in July. Traditionally, Norway is not a very important market for United States fish oil. Average United States exports of fish oil to Norway in 1965-69 were 2.3 million pounds.

Sweden took about 14 percent of United States exports in January-July 1970--compared to about 9 percent a year ago. The United Kingdom received about 5.9 million pounds of fish oil from the United States, about 67 percent more than a year ago. West Germany took only about 3 million

Table 27.--U.S. exports of fish oil by country of destination, January-July, 1965-69 average, 1969, and 1970

Country	1965-69 average	1969	1970	Percent of total U.S. exports: 1965-69 average	1969	1970[1]
	Million pounds			Percent		
Canada	0.9	1.2	0.8	1.8	1.2	1.2
Netherlands	21.5	63.5	24.2	41.1	65.2	36.2
Sweden	13.0	8.4	9.2	24.8	8.6	13.8
United Kingdom	6.0	3.5	5.9	11.5	3.6	8.8
West Germany	3.9	8.1	3.0	7.4	8.3	4.5
Norway	2.3	-	14.8	4.4	-	22.2
Other	4.7	12.7	8.9	9.0	13.1	13.3
Total	52.3	97.4	66.8	100.0	100.0	100.0

[1]Preliminary.

pounds of fish oil from the United States during the first 7 months of this year--compared to 8.1 million pounds a year ago. Most of West Germany's imports of fish oil came from Peru.

Nearly all of the fish oil exported by the United States was menhaden oil.

Prices

Menhaden Oil Price--Record High

Prices of menhaden oil, as quoted by brokers at New York City, increased from an average of 8.75 cents per pound, f.o.b. East Coast and Gulf plants, in January, to an average of 10.4 cents per pound in July (table 28 and fig. 9). The July average price was nearly double the July price a year ago and the highest monthly average price on our records of 18 years. Menhaden oil prices were steady through the summer but responded slightly to the heavy seasonal production by declining to an average of 9.7 cents per pound in September.

Fish oil prices in Europe also increased during January-July and in July were nearly double those of a year ago.

High prices, relatively heavy domestic use, and increased exports indicate a favorable demand for U.S. fish oil.

OUTLOOK OCTOBER-DECEMBER 1970

Demand

After a steady decline since 1961, use of fish oil in the United States increased in 1969. With the exception of 1965, fourth quarter use has followed the same pattern. During the first 7 months of 1970, the industrial use of fish oil was up about 6 percent from the same period in 1969. If this pattern continues, the utilization of fish oil in the United States during the fourth quarter of this year will be about 9 to 10 million pounds. This compares with 9.1 million pounds last year.

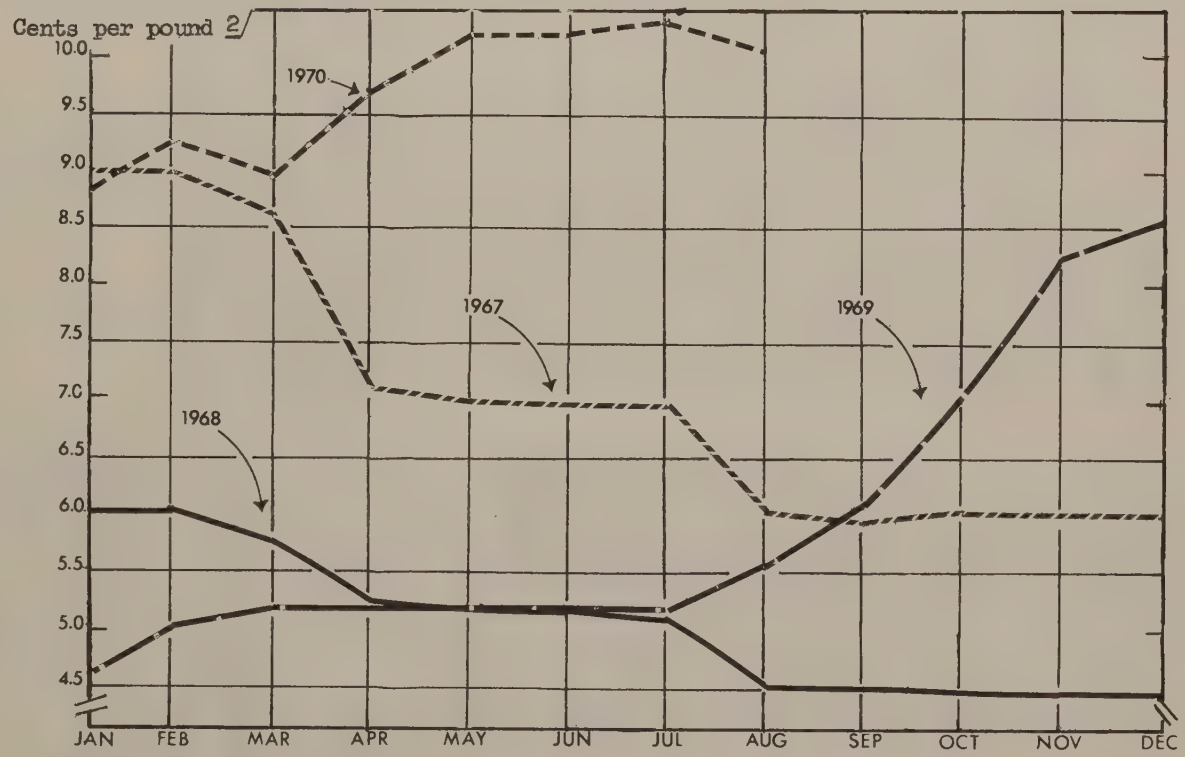
U.S. exports of fish oil are greatly influenced by changes in supplies of fish oil in competing countries and by changes in availability of competing oils in the world markets. U.S. fish oil exports increased notably in July and continued strong in August. About 61.4 million pounds were exported during these 2 months--40 percent more than a year ago. During these months, world prices of fish oil were record high. Although fish oil prices decreased slightly in September, the price level still suggests a relatively strong demand for fish oil. Peruvian supplies of fish oil, however, likely will be much higher during the fourth quarter of this year than a year ago. High supplies of competing oils in the world market are also expected to continue during the fourth quarter. The expected heavier supplies of Peruvian fish oil could therefore cause prices of fish oil to decrease during the fourth quarter.

Supply

Domestic production of fish oil is estimated to be 28 to 33 million pounds in the fourth quarter of 1970. Most of this production will come from menhaden. U.S. production of fish oil in the fourth quarter of 1969 was 27.4 million pounds, and the most recent 5-year average for October-December is 29.5 million pounds.

AVERAGE MONTHLY PRICE OF MENHADEN OIL 1/

AT NEW YORK CITY, 1967–70



1/ Crude oil in tank cars
2/ F.o.b. East Coast plants

U.S. Department of Commerce Neg. Econ. 428-70(10) National Marine Fisheries Service

Figure 9

Table 28.--Average monthly price of menhaden oil[1], f.o.b. East Coast plants, 1965-70

Month	1965	1966	1967	1968	1969	1970
			Cents per pound			
January	9.15	9.50	8.90	6.00	4.70	8.75
February	9.50	9.70	8.90	6.10	5.00	[2]9.25
March	9.50	9.75	8.60	5.75	5.20	[3]8.90
April	9.50	9.75	7.20	5.35	5.30	[3]9.70
May	9.45	9.75	6.90	5.25	5.25	[3]10.30
June	9.15	9.60	6.95	5.25	5.20	10.30
July	8.95	9.40	6.70	4.85	5.25	10.40
August	9.30	9.00	6.00	4.55	5.65	10.20
September	9.50	9.45	5.80	4.40	6.10	9.70
October	9.50	9.45	6.00	4.45	6.75	
November	9.50	9.20	6.00	4.40	8.20	
December	9.50	8.90	6.00	4.40	8.50	
Average[4]	9.25	9.40	6.40	4.70	5.75	

[1]Crude oil in tank cars; prices quoted by brokers at New York City.
[2]Asking price.
[3]F.o.b. Gulf Coast plants.
[4]Weighted average.

Table 29.--Average monthly price of tuna and mackerel oil[1] at Los Angeles, 1965-70

Month	1965	1966	1967	1968	1969	1970
			Cents per pound			
January	6.60	8.00	6.50	3.50	3.25	3.25
February	7.00	7.85	6.50	3.25	3.10	3.50
March	7.10	7.85	6.60	3.25	3.00	3.65
April	7.25	7.60	6.25	3.25	3.00	4.10
May	7.35	7.50	6.25	3.25	3.00	4.70
June	7.60	7.35	6.00	3.25	3.00	4.75
July	8.00	7.10	5.75	3.25	3.00	4.75
August	8.35	7.00	4.60	3.25	3.10	4.95
September	8.50	7.00	3.75	3.25	3.25	
October	8.60	7.00	3.75	3.25	3.25	
November	8.60	7.00	3.75	3.25	3.00	
December	8.10	7.00	3.75	3.25	3.00	
Average[2]	8.00	7.30	5.20	3.25	3.10	

[1]Crude oil, f.o.b. plant; prices quoted by brokers at Los Angeles.
[2]Weighted average.

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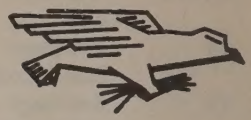

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